

REMARKS

Claims 1-8 were pending in this application.

Claims 1-8 have been rejected.

Claims 1-4, 6, and 7 have been amended as shown above.

Claims 9-20 have been added.

Claims 1-20 are now pending in this application.

The Applicants respectfully request reconsideration and full allowance of Claims 1-20.

I. OBJECTIONS TO CLAIMS

The Office Action objects to Claims 1-6 as being misdescriptive. The Applicants have amended Claims 1 and 6 as shown above. The Applicants respectfully submit that these amendments overcome any alleged misdescription in the claims.

The Office Action also objects to Claims 1-6 as failing to identify the specific “surface” of a substrate. However, Claims 1-6 clearly recite a “surface” of a substrate and a “direction perpendicular to the surface of the substrate.” The recitation of a “top surface” is not required in order to properly determine the scope of the claims. As a result, there is no ambiguity in the claims, and the claims are not misdescriptive.

Accordingly, the Applicants respectfully request withdrawal of the objections to the claims.

II. REJECTION UNDER 35 U.S.C. § 103

The Office Action rejects Claims 1-8 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,514,892 to Countryman et al. ("*Countryman*") in view of U.S. Patent No. 6,388,851 to Pettersson ("*Pettersson*").

In *ex parte* examination of patent applications, the Patent Office bears the burden of establishing a *prima facie* case of obviousness. (*MPEP* § 2142; *In re Fritch*, 972 F.2d 1260, 1262, 23 U.S.P.Q.2d 1780, 1783 (Fed. Cir. 1992)). The initial burden of establishing a *prima facie* basis to deny patentability to a claimed invention is always upon the Patent Office. (*MPEP* § 2142; *In re Oetiker*, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992); *In re Piasecki*, 745 F.2d 1468, 1472, 223 U.S.P.Q. 785, 788 (Fed. Cir. 1984)). Only when a *prima facie* case of obviousness is established does the burden shift to the Applicant to produce evidence of nonobviousness. (*MPEP* § 2142; *In re Oetiker*, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992); *In re Rijckaert*, 9 F.3d 1531, 1532, 28 U.S.P.Q.2d 1955, 1956 (Fed. Cir. 1993)). If the Patent Office does not produce a *prima facie* case of unpatentability, then without more the Applicant is entitled to grant of a patent. (*In re Oetiker*, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992); *In re Grabiak*, 769 F.2d 729, 733, 226 U.S.P.Q. 870, 873 (Fed. Cir. 1985)).

A *prima facie* case of obviousness is established when the teachings of the prior art itself suggest the claimed subject matter to a person of ordinary skill in the art. (*In re Bell*, 991 F.2d 781, 783, 26 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1993)). To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or

motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed invention and the reasonable expectation of success must both be found in the prior art, and not based on the Applicant's disclosure. (*MPEP* § 2142).

Claims 1 and 6 recite that at least part of each of "first and second tracks" is located between at least one diode and a connection terminal, where the "first and second tracks" are capable of being coupled respectively to "first and second terminals of an electrical power source." Claims 1 and 6 also recite that the connection terminal is "located above" at least part of one or more of the diodes "with respect to the substrate in a direction perpendicular to the surface of the substrate."

The Office Action acknowledges that *Countryman* fails to disclose two tracks, each having at least a portion located between at least one diode and a connection terminal. In particular, the Office Action notes that "track 56" in *Countryman* is coupled to a higher potential, while a substrate is coupled to a lower potential. (*Office Action, Page 3, Second paragraph*). The Office Action relies on *Pettersson* as providing the missing elements in Claims 1 and 6.

Pettersson recites electrical connection pads for integrated circuits that use protective diodes. (*Abstract*). The circuit of *Pettersson* includes metal areas 41 and 43, which are connected to different potentials. (*Col. 6, Lines 16-18*). Contact plugs 37 and 39 couple the metal areas 41 and 43 to well-conducting areas 29 and 31. (*Col. 6, Lines 12-15*). The well-

conducting areas 29 and 31 may have titanium silicidated areas 33 and 35 on their top surfaces. (Col. 6, Lines 12-15).

The Office Action relies on the silicidated areas 33 and 35 of *Pettersson* as anticipating the “first and second tracks” recited in Claims 1 and 6. However, *Pettersson* illustrates that the silicidated areas 33 and 35 stop at the outer edges of two field oxide areas 25 and 27. *Pettersson* also recites that the field oxide areas 25 and 27 may have outer edges directly below the outer edges of a bonding pad 3. (Col. 5, Line 63 – Col. 6, Line 3). Therefore, the silicidated areas 33 and 35 of *Pettersson* do not continue under the bonding pad 3. As a result, the silicidated areas 33 and 35 of *Pettersson* cannot anticipate two tracks, each having at least a portion located between at least one diode and a connection terminal (where the connection terminal is located above at least part of one or more diodes with respect to the substrate in a direction perpendicular to the surface of the substrate) as recited in Claims 1 and 6.

The Office Action may be relying on the fact that there are additional silicidated areas 17, 19, and 50 located under the bonding pad 3 of *Pettersson*. (Col. 5, Lines 48-53; Col. 6, Lines 31-35). The Applicants respectfully note that these silicidated areas 17, 19, and 50 are separate areas and are not physical continuations of the silicidated areas 33 and 35. As a result, the silicidated areas 33 and 35 relied upon by the Office Action clearly stop before reaching any area located between at least one diode and the bonding pad 3 of *Pettersson*.

Because of this, the proposed *Countryman-Pettersson* combination fails to disclose, teach, or suggest all elements of Claims 1 and 6. For these reasons, the Office Action fails to establish a *prima facie* case of obviousness against Claims 1 and 6 (and their dependent claims).

The dependent claims are patentable due to their dependence from allowable base claims and in light of their own recitations. For example, Claims 2 and 3 recite how an anode of a diode is surrounded by a cathode of the diode (or vice versa) “in a plane parallel to the surface of the substrate.” The Office Action cites anode 44 and cathode 30 or cathode 33 and anode 32 of *Countryman* as anticipating these elements of Claims 2 and 3. However, Figure 5 of *Countryman* clearly shows that anode 44 is not “surrounded” by cathode 30. While cathode 30 may cover the bottom surface of anode 44, cathode 30 does not “surround” anode 44. Similarly, Figure 5 of *Countryman* clearly shows that cathode 33 is not “surrounded” by anode 32. While anode 32 may cover three sides of cathode 33, cathode 33 is not “surrounded” by anode 32.

Moreover, Claims 2 and 3 recite that an anode or cathode is linked to the connection terminal by at least one connection “passing through one of the first and second tracks,” where the at least one connection is “electrically insulated from the first and second tracks.” The Office Action relies on conductor 56 of *Countryman* as anticipating one of the “first and second tracks” in Claims 2 and 3. The Office Action fails to show that any anode or cathode in *Countryman* is “electrically insulated” from the conductor 56, and no connection from an anode or cathode passes through the conductor 56 of *Countryman* to connect to the wirebond pad 20 of *Countryman*. In addition, in *Pettersson*, there are no connections passing through the silicidated areas 33 and 35 from an anode or cathode of a diode to the bonding pad 3.

Because of this, the proposed *Countryman-Pettersson* combination fails to disclose, teach, or suggest all elements of Claims 2 and 3. For these reasons, the Office Action fails to establish a *prima facie* case of obviousness against Claims 2 and 3.

Accordingly, the Applicants respectfully request withdrawal of the § 103 rejection and full allowance of Claims 1-8.

III. NEW CLAIMS

The Applicants have added new Claims 9-20. The Applicants respectfully submit that no new matter has been added. At a minimum, the Applicants respectfully submit that Claims 9-20 are patentable for one or more reasons discussed above. The Applicants respectfully request entry and full allowance of Claims 9-20.

IV. CONCLUSION

The Applicants respectfully assert that all pending claims in this application are in condition for allowance and respectfully request full allowance of the claims.

SUMMARY


If any issues arise, or if the Examiner has any suggestions for expediting allowance of this application, the Applicants respectfully invite the Examiner to contact the undersigned at the telephone number indicated below or at *wmunck@munckbutrus.com*.

The Commissioner is hereby authorized to charge any fees connected with this communication (including any extension of time fee) or credit any overpayment to Deposit Account No. 50-0208.

Respectfully submitted,

MUNCK BUTRUS, P.C.

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William A. Munck
Registration No. 39,308

P.O. Box 802432
Dallas, Texas 75380
Phone: (972) 628-3600
Fax: (972) 628-3616
E-mail: *wmunck@munckbutrus.com*